

# Support of Business Clusters and its Impact on Competitive Environment

Ing. Tomáš Peterka

## 1. Abstract

*Příspěvek se věnuje přehledu teoretických přístupů a současných názorů na podporu podnikatelských klastrů, protože odborníci nejsou v této otázce jednotní. Zastánci státní podpory tvrdí, že bez toho by nebyl možný další rozvoj jednotlivých regionů, zatímco odpůrci považují formu podpory klastrů, pokud připustí vůbec nějaký efekt, za krok, který vede k nestejnomyšlnému vývoji v různých regionech. Podle těchto teorií nemůže být státní instituce autoritou, která je dostatečně motivovaná a kompetentní v oblasti inovací. Každá podpora má navíc dopad na konkurenční prostředí, což je v současné literatuře opomíjeno téměř úplně. V rámci příspěvku jsou všechny důležité vazby a vztahy popsány, znázorněny a naznačeny jsou i další možné interakce.*

## 2. Competition Law

Competition between firms is the basic mechanism of market orientated economy and support innovation issue, reduces production cost and increase performance of the whole economy. Only those firms stimulated by competition offer products that are competitive from the price and quality perspective. Competition has a huge impact for consumer, because strong competition helps to choose from wider range of goods for better prices. It is simple, but very effective guarantee of optimal state between quality and price. Effective economic competition is key factor for competitiveness and economical grow. Effectiveness is especially made by market of independent firms that are in competitive relation to each other. To ensure ability of suppliers to make such a pressure, the Competition law define some forbidden practices able to restrict competition. Against such practices acts the Office for the Protection of Competition in Brno with the primary aim to eliminate negative influence of competition.

### 2.1. Legal regulations in the Czech Republic

The Law allows competitors freely develop competition to reach economic profit, but forms particular obligatory rules for them. The Commercial Code in § 41 states generally for all subjects (individuals and corporate bodies) participating in economic competition (competitors):

- Right to freely develop own competition activity in the interest of reaching economic profit and associate for it,
- obligation respect Competition Law and not abuse the participation in it,

Regularity of competition activities is covered by system of precept of law that protect abuse of participation in economic competition. There are two groups of precepts of law shaping competition rules:

- Norms leading against unfair competition – Commercial Code (§ 41 to 55 C.C.),
- norms leading against forbidden restraint of economic competition – Law #143/2001 (the Law about the protection of economic competition and about changes of certain laws)

## **2.2. Competition law from cluster perspective**

According to Porter (1990), clusters represent combination of competition and cooperation. Strong competition exists in case of attracting costumers but in other cases, e. g. supplier relationship, local R&D centres, educational institutions, clusters cooperate.

Competition and cooperation are able to coexist in some particular conditions, because, in some ideal case, they exist in the different dimensions or because cooperation on one level means victory on another. (Desrochers, 2004).

On one hand the government must, if wants successful cluster initiatives, eliminate barriers to innovations, capital and human resources investments, infrastructure and other limitation (Porter, 1990), on the other hand must respect policy of protection of economic competition, which through Competition Law barriers create. Porter by saying "*most of clusters forms independently on government acting and sometimes in spite of it*" probably meant government support of clusters, eventually barriers in form of limitations of labour fluctuation, administrative obstructions during establishing businesses etc., but no eluding the Law. In case of Competition Law, the main aim is to avoid establishing of associations ruining the healthy competition environment, e. g. cartels. Nevertheless the true is that Competition Law is limiting cluster initiatives more than their actors would imagine. The development of region is preferred to development of cluster.

## **3. Business clusters**

### **3.1. Historical aspects of clusters**

Clusters are very tightly connected to regional development. Blažek and Uhlíř (2002) introduce all historically important theories describing regional development. The Theory of J. M. Keynes "*The General Theory of Employment, Interest, and Money*" serves as a basic for cluster support policy, thus needs of regulation of free competition between clusters.

As a father of modern theory of cluster is being called M. E. Porter although this Harvard professor is not the first one using the term "Cluster", or hasn't written the most important work in the regional development issue, his reputation and the position of world leading theorist in the field of business strategy makes him being guru of economic development for world politicians (Desrochers, 2004): "*Cluster is geographically concentrated group of interacting firms, their suppliers, providers of services and related institutions in the same industry and firms in related industries, who compete to each other and cooperate, have similar characters and are complementary to each other.*" (Porter 1990). Porter himself consider Alfred Marshall as his intellectual predecessor, who brought out objective patterns of geographical location of specialised industrial associations, motivated above all by need of staying close to their outlet (Marshall 1890). He has called clusters "industrial districts" and has identified concentration of supplier-customer cooperation set in mostly due to logistic cost savings. Even deeper in history there was von Thünen (Thünen 1966/1826) systematically working on the issue of regional development, especially regularity of farmsteads.

Thus, cluster is nothing new and forms of business associations have existed here from the dawn. Businessmen and their predecessors have always been concentrated close to sources (fisherman village on the bank of the lake has grouped fisherman, fish-sellers, boat makers into one functional unit), human sources, logistical centres (business road junctions), etc.

The industry is being concentrated last hundreds years too.

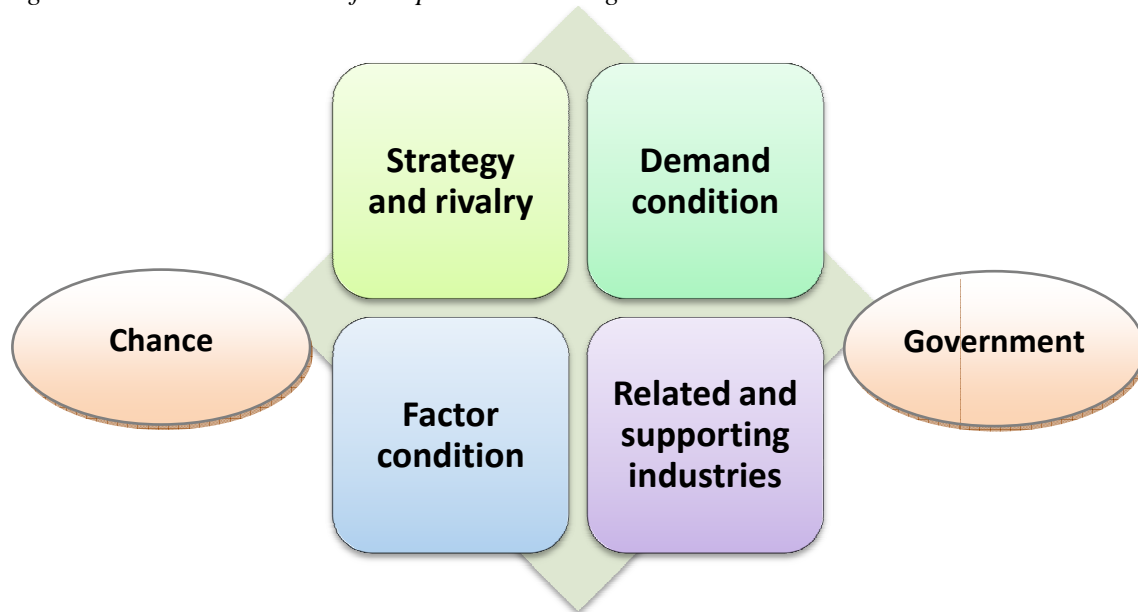
Modern history of clusters can start with Porter's The Competitive Advantage of Nations (Porter 1990) and so called Green Book of Cluster Initiatives introduced on world conference TCI about clusters on September 18<sup>th</sup> 2003. There are differences on the national levels in

cluster initiatives; there is no standard conception of cluster due to historical, social and political factors. Cluster initiatives in the Czech Republic are under responsibility of agency CzechInvest together with Ministry of Industry and Trade.

### 3.2. Concept definition of “Cluster”

While trying to set concept definition of Cluster, it is necessary to start with M. E. Porter (1990), who defined four groups of strengths affecting competitiveness of subject operating in clusters. These strengths it is possible to describe by following figure, called „Diamond model of competitive advantage“:

*Figure 3.1: Diamond model of competitive advantage*



There is one important condition while defining concept of cluster, cluster should be organised under corporate body that acts on behalf of its members. There is a theory existing for a long time saying that transaction costs in express terms override organizational costs of particular processes under separate authority (Coase, 1937). Firms and other institutions organised in clusters cooperate, share ideas and innovations and use synergic effects to develop effectively and faster. That is not only concern of these subjects but also concern of regional or national policy. This approach is not going very well with Porter's original ideas, while he was protagonist of clusters and associations as a outcome of endogenous development and naturally taking advantage of cooperation, proximity of sources, shared know-how – traditional manufacturing process. That is the reason, why there is such a need of exact definition and typology of clusters. It is not possible to call “Cluster” any association of firms, any cooperating SMEs.

### 3.3. Public convenience of cluster initiatives

Although the fact of public convenience of clusters is generally accepted, there are some voices infirming positive influence to economy and alerting to governmental support of such initiatives. These voices refer to missing conclusive evaluating methods of public convenience. By summarisation of cluster studies (Rocha, 2004) has been proved that individual scientists, studying clusters and their impacts to development in various levels (firms, regions, national levels), use different methods of measurement and use different performance indexes. A positive contribution of cluster initiatives for their members is often used as a proof of positive contribution for the development on the regional or national level, which is considered as overmuch simplifying.

### **3.3.1. Cluster and performance of its members**

Empirical studies have proved that performance indexes of firms in clusters are higher than those of individual firms. The higher potential to innovations has also been proved (Rocha, 2004). Firms enter to clusters mainly with the expectation of increasing knowledge about opportunities, transforming knowledge into products and innovation process, offsetting demand and supply fluctuation – optimization of source use and sharing risks (Maskel, Lorenzen, 2004).

### **3.3.2. Clusters and local development**

Despite of some encouraging cases, various factors complicate empirically generalize impact of cluster initiatives on local development (Rocha 2004). Development strategy of regions without theoretical support, often rely on local economy and social system, where SME, entrepreneurship and innovation plays lead role. Krugman (1991) points out that cluster initiatives may lead to development only limited number of clusters in region, which may lead to risks in case of economical or competitive fluctuation more than in regions more diversified. Another risk for regional development may be the fact that all clusters belong to one industrial branch. This may cause full dependence of region on development in the particular industrial branch.

It is essential to analyze also view of appropriate time horizon while judging clusters and their influence on local development (Capello, 1996).

### **3.3.3. Clusters and national development**

National competitiveness is based on quality of market mechanism, particular factors of Porter's diamond are well fulfilled when concerned firms are geographically localized (Porter 1990). There are two main topic on the national level discussed: difference of development particular regions and impossible transferability of cluster initiatives between regions or countries (Rocha, 2004). Despite of many theoretical studies, there is no empirical research proving explicit effect of clustering for national development.

### **3.3.4. Knowledge creation in clusters**

Public convenience of clusters is connected also with knowledge creation in clusters. One of reasons why cluster initiatives are so massively supported nowadays is their contribution to knowledge based economy and competitiveness. Thoughts and claims about public convenience of regionally connected firms are based on down-to-date know edge and long lasting scientific debates about possible interactions between regional economical systems and patterns of knowledge creation (Malmberg, Power, 2005). There are three main hypothetical arguments separated out of theoretical literature about contribution of clusters to knowledge creation and competitiveness:

- knowledge in clusters is created through various forms of local inter-organizational collaborative interaction,
- knowledge in clusters is create through increased competition and intensified rivalry,
- knowledge in clusters is created through spillover effects following from the local mobility and sociability of individuals.

These three theoretical hypotheses have been submitted to detail empirical research (Malmberg, Power, 2005) that only proved need of more case studies to confirm or refuse them.

#### 4. Government support of clusters

Economical success of Silicon Valley – in the meaning of increasing level of life of individuals, incomes of firms and job creation, was so massive that state institutions try to repeat it (Feldman, 2005). Nevertheless there exist a large number of cases, where the cluster initiative failed. Experts are not united in the opinion on government cluster support. Even ther is supposed positive influence of clusters on development of regional economy, there are voices against. These experts claim that administrative officers miss key competencies to decide about knowledge leading to development of region. Such a policy doesn't even touch the real problems, like knowledge of future market state, in many cases (Macdonald 1992).

Porter (2000) says that clusters are created independently on government initiatives and sometimes in spite of it. Government should avoid temptation of initiation of completely new clusters, because in each cluster there should always exist some basics that has already passed the market test like a condition for expended effort connected with other development of clusters.

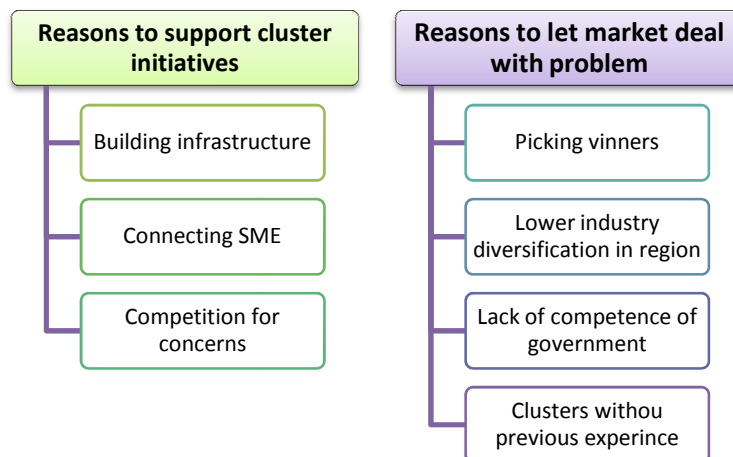
How should government involve in cluster initiatives according to Porter? By removing barriers to innovations, investing into basic human and capital infrastructure and supporting geographical interactions between SME. The artificial creating of cluster and innovation centres on the basis of government initiatives is controversial due to more political then economical interests. It is possible to find calls for careful approach to cluster initiatives of government. These may be reasons (Kirzner 1979, Sautet 2002):

- ignorance of causality,
- lack of profit motive,
- potential risk of stifling innovation process,
- set up of different direction of development then would by done by customers.

The artificial creating of cluster initiatives together with early stages support is very dependent on a large number of factors. Creating of cluster needs a lot of time and there is no guarantee about the outcome and sustainability in the future (Feldman, 2005).

There is not only risk of failure of these activities due to absence of long term experience with cooperation and long time relation of potential members of cluster, but also fact that it may lead into giving unreasonable priority to certain business associations before others, often connected with economical privilege, so called picking winners. These risks are very serious and need very sensitive approach of authorities, responsible for cluster initiatives.

Figure 4.2: Pros and cons of cluster initiative support



#### **4.1. Impact of cluster initiatives support on competition**

After research, that has been done, it is clear that experts, working on the field evaluating public convenience of clusters, are quite positive in the question of clusters, – business subjects, R&D and educational subject, cooperating in certain regions. Where they are disunited is the problem of governmental and regional support of new clusters. This support is motivated by success of functional clusters, which is really attractive to follow. Experts are very cautious about lack of competencies of administrative officers, not motivated by profit, having insufficient entrepreneurial and technological knowledge and making decisions about support of clusters.

Other very important outcome of research is a lack of empirical or theoretical studies describing impact of such support into competitive environment of region. Clusters have no exclusivity in the question of Competition Law against other associations, even more, there is higher risk of violation of competition rules due to tighter relationship between members, who still are competitors to each other. To mentioned above there is need to add also higher risk of anticompetitive acting in cluster (collective pricing policy, sharing information about customers, etc.).

There is a support (from public budget) of associations, who may, in competitors fight with other subjects on the market, use not only synergic effects of cooperation, but also some illegal acts leading to disturbance of healthy competition environment. Even worse is the fact, that they may do it knowingly or unknowingly.

##### **4.1.1. Examination of negative impacts on competition environment in clusters**

To eliminate negative impacts on competition environment caused by creation and supporting functionality of cluster is not the responsibility of government, but belongs to subjects engaged in cluster initiatives. Especially, when some more serious tort against the competition law happens, it is the cluster (or responsible subject) who is punished. Examination of possible risks in clusters should come out from following questions:

- What is the cluster market share? What is the possible influence of cluster on market? If the common share of involved subjects on the relevant market is higher then 10 per cent (horizontal deals) or 15 per cent (vertical deals), such cooperation may be considered as competent to harm competitive environment.
- Does cluster decide collectively about price policy, dividing of market, sources or customers, or control production, distribution; such cooperation must be evaluated as forbidden no matter what the market share is.
- Do employees or managers of particular members of cluster have regular contact with competitors on professional or social level? Members of cluster are still the competitors, so the questions must lead even inside involved subject, not only to relation with outside environment.
- Does cluster share information? There is exactly said what kind of information, and what kind of form, may be shared and what kind not.

##### **4.1.2. Increasing of legal consciousness between employees of cluster**

Principles of protection of competition environment point out need of increasing of legal consciousness between employees in all cases, where does exist even small risk of violation of law. Large companies have special trainings, corporate e-learning applications, specialised tutors or outsourcing consultant firms. In cluster, these competitions belong to responsibilities of cluster managers. They decide about the way and intensity of legal education.

## 5. Conclusion

The meaning of this work is to examine of scientific approaches in the field of impacts of regional support of clusters, because it is very up-to-date issue. Outcome of the research is the finding this issue more then controversial with no clear opinion between scientific authorities. There are successful clusters as well as failures of cluster initiatives and that doesn't make it easier. The reason may be in difficulty to identify success factors and impossibility to repeat success in different conditions.

Influence of government support of cluster initiatives to competition environment is even harder to describe due to absolute lack of empirical or theoretical studies. Clusters remain risky part of economical development of regions, if it is seen thru competition law lens. The fact, that the subject responsible for the failure in competition rules is the cluster itself and not government should be alarming for some cluster managers, while there may be some quiet signs of cartel policy in some clusters.

## 6. References

- [1] ARTHUR, W. B. (1990), „Silicon Valley Locational Clusters – When Do Increasing Returns Imply Monopoly“. *Mathematical Social Sciences* **19**, 235-251
- [2] Blažek J., Uhlíř D. (2002), Teorie regionálního rozvoje, Univerzita Karlova v Praze, Nakladatelství Karolinum.
- [3] CAPELLO, R. (1996), „Industrial Enterprises and Economic Space: Network Paradigm“, *European Planning Studies* **4**, 485-506
- [4] COASE, R. H. (1937), The nature of the firm, *Economia*, **4**, 386-405
- [5] DESROCHERS, P., SAUTET, F. (2004), „Cluster-Based Economic Strategy, Facilitation Policy and the Market Process“, *the Review of Austrian Economics*, **17:2/3**, 233-245.
- [6] FELDMAN, M. P., FRANCIS, J., BERCOVITZ, J. (2005), „Creating a Cluster While Building a Firm: Entrepreneurship and the Formation of Industrial Clusters“, *Regional Studies*, **39.1**, 129-141.
- [7] KIRZNER, I. M. (1979) „The Perils of Regulation: A Market-Process Approach.“ Reprinted in Kirzner, I. M. (1985), *Discovery and the Capitalist Process*. University of Chicago Press.
- [8] KRUGMAN, P. (1991), *Trade and Geography*. Cambridge, MA, MIT Press.
- [9] MACDONALD, S. (1992), „Formal Collaboration and Informal Information Flow“, *International Journal of Technology Management*, **7**, 49-60
- [10] MALMBERG, A., POWER, D. (2005), (How) Do (Firms in) Cluster Create Knowledge?, *Industry and Innovation*, 12(4): 409-431.
- [11] MARSHALL, A., (1966/1890), *Principles of Economics*, 8th edition, London: McMillan
- [12] MASKEL, P., LORENZEN, M., (2004), „The Cluster as Market Organization“, *Urban Studies*, **41**, 991-1009.
- [13] PETERKA, T., (2007), Aplikace soutěžního práva v podnikatelských klastrech. In *Znalostní báze pro podporu řízení podnikatelských seskupení*. Praha : [s.n.], 14.
- [14] PETERKA, T., (2006), Konkurenční zpravodajství v klastrech a soutěžní právo. In *2. mezinárodní konference SCIP CZECH : Cesty k zvyšování konkurenceschopnosti v soukromém i veřejném sektoru a vzdělávání*. Praha: Nakladatelství ČVUT - výroba, 23.
- [15] PETERKA, T., (2007), Legal Aspects of Cooperation between Business Cluster Members in the Czech Republic. In MIKOLAJ, Ján, BUJŇÁK, Ján. *Transcom 2007 : 7-th European Conference of Young Research and Science Workers, Section 2, Economics and Management, Part 2*. Žilina: [s.n.], 81.

- [16] PORTER, Michael, E. (1990), *Competitive Advantage of Nations*, London: Mcmillan
- [17] PORTER, Michael, E. (2000), „Location, Competition, and Economic Development: Local Clusters in a Global Economy“, *Economic Development Quarterly*, **14**(1): 15-34.
- [18] ROCHA, O, (2004), Entrepreneurship and Development: *The Role of Clusters*. *Small Business Economics* **23**: 363-400
- [19] ROSENFELD, S., (1997), „Bringing Business clusters into the Mainstream of Economic Development“, *European Planning Studies*, **5**, 3-23.
- [20] SAUTET, F., (2002) *Economic Transformation, the Pretence of Knowledge and the Process of Entrepreneurial Competition*. New Zealand Treasury Discussion Paper (<http://www.treasury.govt.nz/et/#9>).
- [21] SAXENIAN, A., (1994), *Regional advantage. Culture and Competition in Silicon Valley and Route 128*, Cambridge, MA: Harvard University Press
- [22] SÖLVELL, Ö., LINDQUIST, G., KETELS, CH. *Zelená kniha klastrových iniciativ*. ISBN 9197478334.
- [23] THÜNEN, J. H. von (1826/1966): *Isolated State*. Oxford and New York, Pergamon (něm. originál)
- [24] TUSHMAN, M., ROSENKOPF, L., (1992), „Organizational Determinant of Technological Change – Toward Sociology to Technological Evolution“, *Research in Organizational Behaviour* **14**, 311-347.

Internet source:

- [1] <http://www.compet.cz>: Official web of the Office for the Protection of Competition in Brno.